

EAST COAST SHELLFISH GROWERS ASSOCIATION



The East Coast Shellfish Growers Association represents over 1,000 shellfish farmers from Maine to Florida. These proud stewards of the marine environment produce sustainable, farmed shellfish while providing thousands of jobs in rural coastal towns.

The ECSGA informs policy makers and regulators to protect a way of life.

The Mouth of the Bay

European Union Opens Doors To U.S. Shellfish Trade



Executive Director
Bob Rheault

After nine long years of pushing, the European Union finally reached an agreement with the Food and Drug Administration to allow resumption of cross-Atlantic trade in shellfish! Initially only two states (Massachusetts and Washington) will be allowed to send shellfish to the EU, but we have assurances that other states will be added using an expedited process. It is not perfect, but it is a

good first step.

We continue to push hard for the Shellfish Aquaculture Improvement Act (HR-5061) to exempt aquaculture workers from the Jones Act, but time is

running out on the 115th Congress and we are thinking it may take another big push to get this done. We laid off our lobbyist, Matt Mullin, due to budgetary constraints, but if we can restore our balance sheet and bring him back onboard, I believe we will be well situated to get this done in the 116th Congress.

I am optimistic that our amendment to the Farm Bill will survive conference committee negotiations; and we should be talking about new crop insurance options for growers in the next year or two.

Growers in North Carolina and the Florida panhandle took it on the chin from two massive hurricanes. Damage reports are still coming in, but many new growers got wiped out, and the shellfish industry in these states has suffered a serious setback.

I hope everyone will make plans to attend the Northeast Aquaculture Conference and Exposition (NACE) in Boston January 9-11. Lots of great sessions are planned and there are few better ways to meet other growers to talk about what works and what doesn't.

Join the Shellfish Growers Climate Coalition: Do Something About Climate Change and Improve Your Bottom Line

by Sarah Malinowski, Co-owner,
Fishers Island Oyster Farm, Fishers Island, N.Y.

Back in April seven shellfish growers joined forces with the Nature Conservancy to form the Shellfish Growers Climate Coalition (SGCC). As of this writing its ranks have swelled to include almost 70 members in 18 states, representing large and small shellfish farms on the East, West and Gulf Coasts. In October the **ECSGA board of directors voted to support the goals and mission of the SGCC** by encouraging its members to join, and to get involved by telling their stories and asking other businesses they work with to join.

Coalition membership is focused on businesses along the shellfish supply chain, including gear manufacturers, hatcheries, growers, wholesalers, retailers and restaurants. We also have a Friends group that is open to all others, and currently includes a wide range of individuals and organizations, including ECSGA. They all have one thing in common: they recognize the impacts of climate change on their communities and their bottom lines, and want to do something about it.

Growers experience impacts first-hand

While sea-level rise is a slow-moving change that is easy to ignore if you live inland, it informs the day-to-day reality of coastal communities right now. Hatchery owners are joining the coalition because ocean acidification resulting from increased levels of carbon dioxide in the atmosphere inhibits shell growth in larval oysters. After experiencing heavy losses, hatchery operators have learned how to buffer the pH of the seawater they bring in to their hatcheries. They have taken on this added cost of doing



MARY CONTI/TNC

Workers placing a combination of "oyster castles" and bagged oyster shells for a living shoreline installation in Downe Township, N.J., three years after Hurricane Sandy ravaged the shoreline and adjacent salt marsh.

business in a changed environment, but are still very concerned about future productivity and profitability.

Shellfish growers are joining the coalition because they see first-hand the impacts of sea-level rise on their businesses. Sea-level rise, combined with increasing frequency and intensity of storms, challenges shellfish growers on all coasts. Storms can destroy crops in a variety of ways. For example, the influx of fresh water from heavy rains and runoff can change the pH and carbonate chemistry in estuaries, exacerbating the challenges of forming a shell in acidified waters. When sewage treatment plants are overwhelmed by intense rains, they can deliver human pathogens to harvest areas, resulting in closures. Storm damage to facilities and gear requires time and

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Join the Climate Coalition

money to repair, and takes time away from growing and selling oysters. Storms can also wreak havoc on transportation chains, impeding the ability of growers to get products to market reliably.

Growers are also joining because increasing water temperatures can lead to higher levels of harmful bacteria such as *Vibrio parahaemolyticus*, which negatively impact shellfish farms by adding costs to ensure shellfish safety. The risk of illness is a huge potential turn-off to customers.

Coalition members agree on these guiding principles:

- ❑ Human impact on the Earth's climate system is well-documented, scientifically understood and profound.
- ❑ Acting to address climate change is imperative to secure the viability of our businesses, our communities and the natural resources they depend on.
- ❑ Improving people's understanding of climate change and its impact on our businesses is an important way to secure public support for clean-energy policies.
- ❑ Enacting policies that reduce carbon emissions and encourage low-carbon choices is crucial to a low-carbon future and to the future of our businesses.

In addition to these fundamentals, coalition members understand that federal policy to protect against the worst impacts of climate change is urgently needed. Similarly, we agree that it is imperative to work with governors and

state legislatures to establish state policies that address carbon pollution.

In its latest report, the Intergovernmental Panel on Climate Change, the leading international organization on climate science, indicated that without significant action to reduce the greenhouse-gas emissions that cause climate change, the world would be committed to experiencing the significant impacts of global warming in excess of 2°C in just over a decade. In other words, unless we act now, we are looking at a world where sea-level rise, deaths from heat waves, storm severity, and impacts to crop yields become significantly more threatening not only to people's livelihoods but also to their very lives.

Acting quickly will allow us to address the causes of climate change before the cost of dealing with the impacts becomes overwhelming. Timely investments are required in order to avoid the worst climate-change scenarios. Just as important, reducing our use of carbon will be good for the long-term sustainability and viability of our businesses, good for economic growth, good for future generations and good for the planet.

The following objectives will ensure our success:

- ❑ **Reduce emissions.** Work with policy makers to significantly reduce U.S. greenhouse-gas emissions to effectively limit climate change.
- ❑ **Use the marketplace.** Work with policy makers to adopt market-based policies that include an economy-wide price on carbon.
- ❑ **Be comprehensive and realistic.** Support the implementation of realistic emissions-

reduction outcomes that will deliver timely reductions across the economy. Climate policies must also consider adapting to and mitigating climate-change impacts such as sea-level rise, ocean acidification, and increased frequency and intensity of storms.

❑ **Support bipartisan efforts** to adopt durable and responsive policies that will increase public support across political cycles, and allow for modification as our understanding of climate change, policy impact and technology evolves.

❑ **Do less harm.** Coalition members recognize the importance of ecosystem function. Long-lasting and robust policies that safeguard marine and terrestrial ecosystems and biodiversity are important for our businesses. Coalition members strive to apply business practices that reduce our own carbon footprint, providing for today and tomorrow.

❑ **Promote equity.** Unabated climate change is a major threat to the U.S. and global economies, yet the journey to a low-carbon future will affect stakeholders differently. We need agility to protect ourselves, while seeking policies that invest in all American workers. Policies should include paths forward for disadvantaged communities that have the fewest resources to manage the costs of climate change and are often the most at risk.

How are we making a difference?

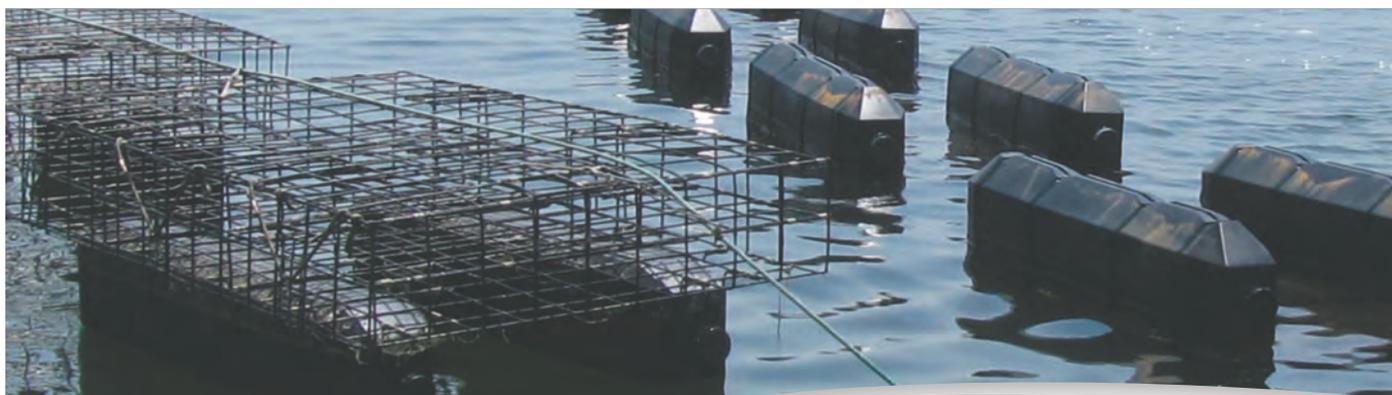
1. Educating customers — Over the Earth Day weekend in April several members with access to restaurants and other retail outlets told their customers about the newly formed coalition in promotional materials. It was a great way to make the connection between our products and the environment, which our customers care about but may not fully understand.

2. Sharing our stories of climate impact — We have many projects underway to tell our stories more broadly. For example, we are

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RICHARD RUSH

After doing the math, the ECSGA board of directors voted to discontinue the association's relationship with the annual Milford Oyster Festival.

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ECSGA To Part Ways With the Annual Milford Oyster Festival

by Robert Rheault,
ECSGA Executive Director

After providing the oysters and shucking-contest entertainment at the annual Milford Oyster Festival (AMOF) for the past 12 years, the ECSGA board of directors recently voted to sever the association's relationship with the festival. This was not an easy decision, but after a careful analysis evaluating the effort involved and the profits made, the board decided that the positives only slightly outweigh the negatives. While sales at the event have continued to grow each year, costs have swelled too, as has the level of volunteer commitment required to pull off this massive undertaking.

Financially, this was also a difficult decision. For years, income from the AMOF has covered a significant portion of our operating expenses, typically generating over \$30K in income on about \$70K in sales. However, about half of that income is made possible by the generous shellfish donations of ECSGA members.

The board felt that if everyone who donated shellfish would be willing to pay a similar amount in dues, we would only be talking about a budgetary shortfall of about \$15K. We polled our shellfish donors and they supported the decision, as did many of the regular volunteers who have given their blood and sweat to serve 40,000 delicious oysters to an eager crowd of thousands each year.

We hope we will be able to make up the financial shortfall by recruiting additional members. Given the recent rate of growth in production, we should be able to convince another 30-50 new members to join our efforts to make the world safe for shellfish. The board felt that we needed to move beyond "holding a bake sale" to keep the association solvent, and given the uncertainties of how the weather impacts our sales and profits each year, we felt the need to develop a more dependable revenue stream.

We are hopeful that the AMOF will continue to feature oysters and a shucking contest, and we are trying to see if there is a role for our association that can accommodate a lower level of volunteer effort. Before the ECSGA got involved there were no oyster vendors at the festival. It would be a shame if someone else does not step in to fill the void. In recent years we have relied on an army of 100 volunteers and two-dozen paid, professional shuckers. The logistical preparations take weeks, and the work takes a significant toll on the good folks who pitch in to help year after year.

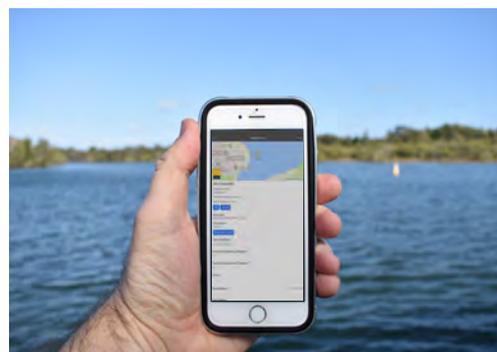
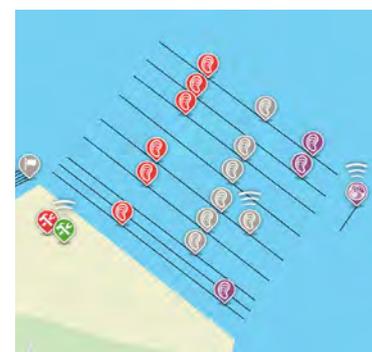
With your help we should be able to recruit a few new members in each state to maintain our current level of member service and involvement in political and regulatory affairs.



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There's Strength in Numbers: Let's Support the NAA

It is always better to go into battle with strong allies. When ECSGA members attend meetings of the Interstate Shellfish Sanitation Conference to push back against the Food and Drug Administration's crazier regulatory proposals we work with our friends from the Gulf Coast and the Pacific Coast Shellfish Growers Association. We always work together well and typically agree on everything. Recently, I have even been reaching out to some of the more rational environmental NGOs and fishermen's groups in an effort to form alliances, focus on shared goals and leverage each other's strengths. We may not agree on everything, but when we are able to focus on common goals (instead of the issues that divide us) we can build compelling coalitions.

I want to call attention to one group that has really stepped up in recent years and is turning into a potent and effective partner: the National Aquaculture Association (NAA). It has always been a strong voice for fish farming, but under the leadership of NAA's board of directors I have seen a welcome embrace of shellfish farming. Over the past couple of years I am happy to report that the NAA has really stepped up their game on many levels. They have spearheaded an active campaign designed to improve public perception of aquaculture, while supporting research to document the costs of regulations. The NAA also has become more active in Washington, D.C., pushing for critical policy and legislative changes.

Since the NAA has members in so-called "flyover country," they are able to seek the support of legislators in every state, not just those on the coasts. The NAA was really helpful when we were trying to get an amendment into the Farm Bill to improve crop insurance options, since there was only one coastal senator on the Agriculture Committee.

The NAA has helped out on issues like discharge permits and Army Corp hurdles, as well as our push to get out from under the Jones Act. In return we have supported their efforts to advance national aquaculture legislation and have shared our experience and connections in lobbying Congress.

I have always been a vocal supporter of the NAA, (even when they were thought of as an arm of the catfish industry). Now, I am happy to report that the shellfish industry has a new, powerful and energetic partner in our fight to keep the world safe for shellfish aquaculture. Because these efforts do not come free, I encourage you to see what they are up to and become a member at thenaa.net.

— RBR

Save the Date

ECSGA Annual Meeting East Coast Commercial Fishermen's & Aquaculture Trade Exposition

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- ❑ ECSGA annual meeting, with elections and updates to the bylaws, at 4 pm on Saturday, January 19
- ❑ On Saturday from 8-3, eight half-hour presentations on aquaculture trends, how to make money growing oysters, hatchery issues and more
- ❑ trade show running all three days

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The Case for Rationalizing Interstate Seed Transport Regulations

by Robert Rheault,
ECSCGA Executive Director

Prior to the 1980s it was common practice to send shellfish seed up and down the East Coast without thinking about what sorts of diseases those seed might be carrying. But eventually, the spread of diseases like MSX and the massive mortalities it left in its wake caused states to regulate the transfers of seed and to mandate seed inspections by pathologists. Naturally, each state developed slightly different rules. Some states banned seed imports altogether, while some restricted the sources of seed. Most mandated expensive pathology screening prior to shipment. Some states even restricted seed movements within their own waters.

This situation is less than ideal. No pathogen respects state boundaries and all pathogens are likely to spread on their own. And many pathogens are already established along much of the coast. The patchwork of regulations also makes it difficult to conduct business. Pathology inspections are expensive and can take a week or two to perform (during which time the seed have grown a few millimeters, jumping in value). Growers want ready access to seed, but they also fear the potential introduction of diseases into their waters. Regulators tend to err on the side of caution, as their mandate is to protect the wild resources in their states.

A Better Way?

Over the past 15 years there have been several efforts to develop a better way, but solutions have been elusive. At the 2015 Northeast Aquaculture Conference and Expo (NACE) in Portland, Me., we held a two-day workshop with over 100 participants looking for answers. After identifying several potential solutions, a subset of the Portland group has landed a few grants to try to turn these ideas into fixes.

One of the solutions that gained traction in Portland was a hatchery certification process. Since larvae and small seed that have never been exposed to unfiltered, raw seawater are almost never found to be infected with diseases, we should be able to design a set of criteria to ensure that such seed are low-risk and reliably clean, thereby avoiding the need to batch-test every lot of seed prior to shipment.

A team initially led by Virginia Sea Grant Shellfish Aquaculture Extension Specialist Karen Hudson drafted the first certification documents. Support from a Sea Grant award to Rutgers has allowed further refinement of certification criteria,

which Lisa Calvo, the New Jersey Sea Grant Aquaculture Extension Program Coordinator, has spearheaded. After several meetings we are now on the verge of sharing our thoughts on what a voluntary hatchery certification process might entail.

The second idea was to map the distributions of known pathogens. You cannot introduce a pathogen if it is already established in the receiving state, so if seed are being moved between two states with similar natural pathogen loads, then the regulators can reconsider the need to mandate expensive pathogen screening. A team led by Dave Bushek (Rutgers) and Ryan Carnegie (Virginia Institute of Marine Science) has received support from NOAA's Saltonstall-Kennedy grant program to map out all the existing instances where diseases have been observed and has already created a web-accessible prototype with actual data.

Regulators currently require a pathology test when moving seed across the state line between Virginia and Maryland in Chesapeake Bay, or from one side of Delaware Bay to the other. Everyone agrees that we need to prevent pathogen introductions into areas that see them infrequently, but one hopes that regulators contemplating transfers between areas with similar pathogen profiles might lighten up on their requirements. Similarly, growers can use the maps to decide where to source their seed



ROBERT RHEAULT

The hatchery certification team visiting the Rutgers aquaculture development facility in Cape May, N.J., in September. The group is on the verge of finalizing a voluntary hatchery certification framework.

and to decide whether to invest in disease-resistant lines.

The third idea that came out of the Portland workshop was to develop a decision tree to guide regulators on the best available science when responding to requests for seed transfers. A small subcommittee of experts (composed of regulators, pathologists and industry members) would provide

advice on a case-by-case basis if a state regulator came up against a case that could not be resolved using the decision tree. Using this resource a regulator could get all the relevant scientific information needed to evaluate peculiar requests. Initial attempts at defining such a decision tree bogged down when the complexity of issues became apparent, but we hope that eventually we can revisit this idea once the first two projects are finished.

In the end we cannot make any state change its rules or consider our recommendations. **All we can do is provide the best available science and hope that regulators will do the right thing.** Our industry can't exist without seed, and many growers are complaining about lack of seed availability. We need to develop a set of regulations that prevents the introduction of diseases, while allowing prudent and rational interstate trade in shellfish seed to meet the needs of industry.



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Oyster Breeding Programs

by Stan Allen, Director, Aquaculture Genetics and Breeding Technology Center, Virginia Institute of Marine Science

Most people probably don't know that there is a small army of researchers and administrators out there who have a keen interest in the advancement of oyster aquaculture. On October 4, a group of about 30 geneticists, genomicists, breeders, industry representatives and government–agency heads met at the University of Rhode Island for the Eastern Oyster Breeders Roundtable. There we discussed developments stemming from the sequencing of the Eastern oyster (*Crassostrea virginica*) genome, and how those discoveries might be exploited for breeding a better oyster.

Genomics of *C. virginica*

Recent efforts to sequence the entire Eastern oyster genome have culminated in one of the most comprehensive and well–assembled genomes in aquaculture. These results are a testament to rapidly advancing DNA technologies, but much work remains to be done in locating and describing the function of these genes. Frankly, the many potential uses for the sequencing data are more numerous and technical than our ability to fully investigate them for breeding.

Nevertheless, researchers have identified millions of genetic markers that ultimately might be useful for practical breeding approaches. Markers can be used for constructing and following pedigrees, for associating traits such as disease resistance or sex determination, or for characterizing population structure of both natural and domesticated populations. Many of us have high hopes that these tools will allow us to greatly accelerate the process of selective breeding for desirable traits.

Breeding for *C. virginica*

Although a handful of oyster breeding programs have been established in the Mid–Atlantic and the South, the absence of a robust breeding effort in the Northeast has been a recognized deficit for some time. Much of the discussion at the October roundtable meeting focused on addressing this issue.

Among these various breeding programs, each has taken different approaches to domestication, but they all share the goal of developing lines that ultimately can benefit productivity on the farm. In focusing on how we can improve breeding on behalf of the industry, we heard



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Oyster showing effects of MSX disease, caused by the protozoan parasite *Haplosporidium nelsoni*. Selective breeding programs are key to developing disease–resistant oysters and heading off massive mortalities.

from several industry representatives about some of their key concerns. For example, aside from steadily improving helpful traits, having established breeding programs in place allows researchers to hit the ground running when they need to react to changing conditions such as water quality, ocean acidification or new diseases.

A powerful example of the latter was described by Peter Kube, Senior Oyster Geneticist with the Commonwealth Scientific and Industrial Research Organization (CSIRO), a government research agency in Australia. Kube and associates were able to quickly redirect an existing breeding program in Australia to address the oyster herpes virus outbreak that is devastating *C. gigas* production around the globe.

Using genomics in breeding *C. virginica*

In 2008, the East Coast Shellfish Growers Association assembled a diverse team of shellfish geneticists from institutions along the East Coast. The goal of this Shellfish Breeding Consortium has been to develop tools and conduct research aiming to improve production traits for the shellfish aquaculture industry. A central underpinning of the group's work has been establishing a USDA Agricultural Research Service position at the University of Rhode Island to help serve the several regionally based programs that are actively engaged in the genetic improvement of lines for industry. Every year the ECSGA has gone to Congress with requests to expand this effort, but with the death of earmarks and tight federal budgets it has become quite challenging to attract directed funding for projects such as this.

A few months ago NOAA leadership informed us about a potential funding opportunity and encouraged the East Coast Consortium to develop a proposal for oyster breeding that can benefit genetic improvement writ large. We decided that trying to exploit the recent findings from the oyster genome, specifically the abundance of genetic markers, might be the best way to direct short–term funds to advance our longer–term goals.

An infusion of funds for a short–term program — no matter how cross cutting the benefits may be — does not solve the problem of sustaining

Industry Survey of Desirable Oyster Traits

Following the roundtable meeting Bob Rheault circulated a survey to growers and hatchery operators via the ECSGA Listserv. The aim was to capture the key traits growers would like to see as we refine our selective–breeding efforts. For instance, over the past several decades breeders have selected for lines of oysters that now have excellent resistance to the parasite MSX. Efforts to develop lines that resist *Perkinsus* (Dermo) have been less successful.

The survey was answered by 43 growers, 19 hatchery operators and 12 dealers. They were asked to rank the desirability of several traits. Here is the ranked list in order of importance:

1. resistance to Dermo
2. resistance to MSX
3. fast growth
4. resistance to JOD (juvenile oyster disease, renamed Roseovarius oyster disease, or ROD)
5. winter survival
6. hinge shape (shuckability)
7. resistance to Seaside organism (SSO)
8. shape (cup–to–fan ratio)
9. color or stripes

Around 80 percent of growers said that if lines were developed with desirable traits they would use them, but fewer than 30 percent said they would like to help with grow–out trials, and fewer than half were willing to pay a royalty that added 10 percent to their seed cost.

breeding programs for the long term. That problem has been addressed regionally in various ways. However, if we can sharpen the tools in everyone's tool box by using advanced genomic methods, we are hopeful this will ultimately translate into better farm animals. The development of a breeding program for Northeast oysters is a long–term goal of the consortium. The ECSGA will continue to seek funding support from federal and state agencies, universities and industry to achieve this goal.

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Climate Coalition

working on an online interactive map of coalition members to explain — through maps, pictures and video — the impacts of climate on farms across the country. The first iteration of the map will be published in early 2019.

3. Policy change — The coalition is working at the state and federal levels to influence climate policy for the benefit of our businesses. When there is a ballot initiative or state legislation, as there was in Washington state during the recent mid-term elections, some of our coalition members engaged their home state. When there is an opportunity for a new state to join the Regional Greenhouse Gas Initiative, we will engage there. At the federal level, we supported legislation introduced last summer by a Republican member of Congress from south Florida to eliminate the federal gas tax and replace it with a more equitable, economy-wide carbon tax. We will continue to aim for bipartisan climate solutions with the new state and federal leadership.

4. Professional conferences — Coalition members participate in industry conferences and scientific meetings such as the Pacific Coast Shellfish Growers Association annual meeting, the biennial Northeast Aquaculture Conference and Exposition, Oyster South and the National Shellfisheries Association meeting. These gatherings help people learn about the current climate-related challenges faced by growers, and about the coalition.

5. Recruiting — Please join us, and ask other business that you work with to join as well. There is strength in numbers. Our large membership demonstrates to policy makers and consumers that our initiatives and objectives enjoy broad support.

A wonderful advantage of our industry is our own diversity. All types of people find their way into shellfish farming. While our main objective is usually to feed and shelter our own families, we would not be in this business if we did not love and respect the natural environment our livelihoods depend on.

Our businesses and our coastal communities are being adversely affected by climate change. Together, let's describe to policy makers what is happening on the front lines.

If we want to stay in business we have no other choice but to act now.



MARY CONTI/TNC

The Nature Conservancy embraces oyster restoration and commercial oyster culture, both of which have positive environmental impacts.

For more info visit www.nature.org/shellfish4climate and watch our video at www.youtube.com/watch?v=YRZsKpW65IA&feature=youtu.be

To join the Shellfish Growers Climate Coalition contact Sally McGee, smcgee@tnc.org

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Passings

Danny Cohen, founder and CEO of Atlantic Capes Fisheries, Inc., and Cape May Salt Oyster Company, died on November 20, 2018 in Cape May, N.J., at age 63 after a long struggle with cancer. Danny was a successful pioneer, entrepreneur and advocate for the commercial fishing, aquaculture and offshore-wind industries, and he will be sorely missed. To read more about Danny's life and accomplishments, visit www.pressofatlanticcity.com/obituaries/cohen-daniel/article_9efd94fa-f691-506d-a60f-303270adb0da.html

Brian Bowes, president and founder of Plastic Pipe and Supply, Inc., and Coastal Aquacultural Supply, Inc., in Cranston, R.I., recently passed away. Brian was an early supporter of the shellfish aquaculture industry and formerly served on the board of the ECSGA.

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Are you Prepared for the Worst?

by Robert Rheault,
ECSCGA Executive Director

Let's hope this never happens to you, but what would you do if someone claimed to have gotten sick from eating your shellfish? Though not a pleasant thought, you should be prepared for the worst and have a plan in place just in case it ever does come to pass. What steps could you take to minimize the damage?

First, you should insist on seeing the tags for the implicated product and verify (if possible) the chain of custody. Tags are often lost or illegible, restaurants or dealers

might be working from invoices, or multiple shellfish sources might be involved. It is critical to lay eyes on the hard evidence.

Many questions will need answers, and fast. Are you insured? Have you checked to make sure your product liability policy doesn't have some sort of exemption clause for mold, viruses or bacteria? Do you have an attorney? Do you have access to all your HACCP records and can you document compliance with all the *Vibrio* controls, such as time-to-temperature and icing requirements?

If you are a dealer and multiple illnesses are involved, you may be forced to conduct what is called a "voluntary recall," which is not

really voluntary at all. The number of shellfish recalls in the U.S. has doubled since 2006. You will need to contact all your customers (and they will need to contact their customers) who purchased implicated product over a range of dates, and notify them to destroy or recover implicated product.

This usually happens over a weekend, or when the boss is on vacation, so it pays to have a written recall plan, (a requirement of the NSSP) which must identify everyone who needs to be contacted.

Rapid response is critical. If contaminated product is out there in the marketplace, you need to hunt it down and get it removed ASAP. You also should notify your insurance agent and your attorney, and pull out your prepared PR statement for the inevitable press inquiry. You can also expect a records inspection and a plant inspection. Check with your suppliers to see if they have product liability insurance, and confirm that you are named as an additional insured party. **Document everything!**

You might even consider buying recall insurance because the costs of a recall can be significant. It is not just the value of product that has to be destroyed or recovered — customers are not likely to pay for recalled product, even if it was



already consumed. Your expenses will include the costs of any shutdown, time spent dealing with inspections and records review, potential damage to your brand and reputation, and lost sales.

Putting a dollar value on damage to your brand or reputation is especially challenging. You can be sure that your customers will be displeased about the inconvenience and potential liability you have exposed them to, and they will probably replace your product with a competitor's product, so you will have to work hard to win back that customer.

A reputation is something that is cultivated over years, but can be damaged or destroyed overnight.

What's the first thing that comes to mind when you think of the brand Chipotle?

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Make Plans to Walk on the Hill With Us in Washington, D.C.

Every year since the ECSGA was formed in 2004 we have made an annual visit to Washington, D.C., to educate our elected representatives and various agency leaders about our issues. We typically align these “Walk on the Hill” trips with our West Coast compatriots in the Pacific Coast Shellfish Growers Association (PCSGA), while trying to accommodate the schedules of our friends from the Gulf Coast so they can join us as well. We usually hold a reception for the members of the Congressional Shellfish Caucus with the help of the Wine Caucus, so we can greet our representatives and their staff over a glass of wine and a few succulent bivalves.

If you have never participated in a Walk on the Hill you should consider joining us just for the civics lesson. I know it’s tough to take



three days off from work to walk the halls of Congress in business attire, but the work is important and the relationships we build are vital in ensuring that our representatives know about the key issues impacting our businesses. After the 2018 mid-term elections we have a large new crop of people to educate. Although we won’t be able to set the date until the congressional calendar is finalized, we expect

to visit the Capitol in late March or April 2019. It really helps to have at least one grower from each state because we get a much better reception if we arrive with a constituent.

If you would like to join us, contact me, bob@ecsga.org and I will keep you in the loop as plans develop.

— RBR

When we walk the Hill, we split into two teams. The North Team visits offices of representatives and senators from Maine to New Jersey, while the South Team covers Maryland to Florida. Pictured left to right in 2016, the North Team: Matt Behan, Bob Rheault, Matt Gregg, Rep. William Keating (D-MA), Chris Sherman, Ben Goetsch, Chuck Westfall, Jeff Auger.

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ISSC Update

by Robert Rheault,
ECSCGA Executive Director

The Food and Drug Administration has finally published the updated Model Ordinance “NSSP Guide,” which means that all the changes voted on in the 2017 Interstate Shellfish Sanitation Conference (ISSC) meeting are now official, enforceable regulations. States should be able to exercise some discretion on certain items while industry comes up to speed on new elements, but you’ll need to familiarize yourself with the new rules to avoid violations.

The new 2017 NSSP Guide can be found on the websites of both the FDA (www.fda.gov/Food/GuidanceRegulation/FederalStateFoodPrograms/ucm2006754.htm) and ISSC (www.issc.org/2017-nssp-guide-).

Some of the more significant changes include:

- ❑ A new aquaculture chapter was drafted and now every state needs to establish a maximum seed-size definition. Seed reared in unclassified or prohibited waters must be removed before reaching the maximum seed size, and must be held in open waters for 120 days prior to sale for human consumption. Structures that attract enough birds or mammals to impact water quality will trigger the need for operational plans to deal with the hazard.

- ❑ Dealers must train employees on health regulations within 30 days of hiring (a work group is being established to determine what that training should entail.)

- ❑ As of January 1, 2019, new tagging requirements will go into effect mandating all shellfish tags have the new required Food Code language in bold print:

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT ON FILE IN CHRONOLOGICAL ORDER, FOR 90 DAYS. RETAILERS: DATE WHEN LAST SHELLFISH FROM THIS CONTAINER WAS SOLD OR SERVED _____.

- ❑ States must collect monthly harvest data to inform the risk-per-serving calculations.

Many proposals were sent back to committee, and debate continues on important issues like the definition of a marina and re-submergence practices for *Vibrio* control.

The next ISSC conference is scheduled for **October 5-10, 2019, at the Intercontinental Hotel in San Diego, Calif.** Mark your calendars! If you see something in the ISSC regulations that is not working for you, talk to me and I can help you develop proposals to improve the Model Ordinance at this upcoming meeting. Proposals are due in May, but developing them takes time, so don’t wait too long.

Heads Up!

In 2015 the ISSC mandated that all harvest vessels must have marine sanitation devices. These can be fancy marine toilets or more economical options, as long as they meet the requirements — a bucket with a tight-fitting lid can pass muster if it has the words “Human Waste” written in 3-inch-high indelible print. You can buy ones with seats for under \$20 (Google “thunder bucket”) or make your own.

Since the regulation was rolled out in 2016, adoption by industry has been slow, so states are getting dinged by the FDA for poor compliance. Since everyone knows that s#*\$ flows downhill, you can look forward to getting written up the next time you get boarded if you don’t have one.

It is illegal to dump waste in growing waters. Make sure to tell your crew that if they ever feel the need to vomit, they must do it in the bucket. While it seems natural to go over the side, if the puker has norovirus they will contaminate acres of beds and potentially make hundreds of people sick. It has happened!

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Save the Date NACE & Milford Jan. 9-11, 2019

The joint meeting of the biennial Northeast Aquaculture Conference and Expo (NACE) and the 38th annual Milford Aquaculture Seminar is set for Jan. 9-11, at the Boston Park Plaza Hotel, Boston, Mass.

Highlights include:

- ❑ nearly 30 concurrent sessions and workshops on topics like farm management tools, farm safety and seaweed farming
- ❑ Happy Hours!
- ❑ trade show with more than 30 vendors
- ❑ eight field trips

There's no better way to network with others and learn what's hot and what's not.

For more info visit:

www.northeastaquaculture.org

Nutrition Researcher Highlights Dietary Value of Shellfish

The following is excerpted from an article by Nicki Holmyard posted on SeafoodSource.com on October 29, 2018:

Numerous studies have shown that eating seafood is good for human health, but Professor Baukje de Roos, deputy director of the Rowett Institute at Scotland's University of Aberdeen and an internationally recognized nutrition scientist, believes that shellfish are some of the most important contributors of essential nutrients and should be given a great place in the diet.

Professor de Roos, who is currently researching the effects of farmed seafood on heart health and micronutrient status, updated delegates at the recent Association of Scottish Shellfish Growers conference in Oban, Scotland, on the major health benefits of seafood and outlined the important involvement of shellfish.

"Oysters in particular are high in zinc and would be a good addition to the diet of anyone aware that they have a deficiency," said de Roos.

Two trace elements commonly found in shellfish, cadmium and lead, were also found in increased levels in humans following increased consumption of mussels, but these were well below hazardous levels, even with three portions per week.

She outlined a study recently undertaken to establish the number of mussel meals needed per week in order to produce a physiologically meaningful change in nutrient status.

Eating three 85-gram portions per week for 12 weeks was found to be the most beneficial for health, raising omega-3 index levels to those similar to a group eating salmon regularly. It also increased folate levels....

"This means that mussels, oysters, king scallops, crab, lobster and langoustine can all claim to be a 'source of' omega-3 fatty acids, and mussels, oysters, king scallop roe, and brown crab meat can claim to be 'high in' omega-3 fatty acids," de Roos said.

"If you add in claims for the vitamins and minerals as well, the marketing message will be really strong."

For the full text visit:

www.seafoodsource.com/news/food-safety-health/nutrition-researcher-the-human-diet-needs-more-shellfish

Maryland Conference Set for Feb. 12, 2019 in Annapolis



The Maryland Shellfish Aquaculture Conference is slated for February 12, 2019 in Annapolis, Md. The Chesapeake Bay Foundation and University of Maryland Extension recently launched an initiative called the Maryland Shellfish Growers Network, whose mission is to support new and veteran shellfish growers by providing resources, technical assistance, and mentoring to help them apply best practices and to share information. In addition to providing growers with practical advice, the network is committed to public promotion and outreach. The upcoming conference hopes to check all those boxes.

Two of the sessions will focus on regulatory developments and creating partnerships to advance aquaculture. Registration is free for Shellfish Growers Network members and \$35 for non-members; registration includes breakfast, lunch, coffee breaks and registration packets.

For more info and to register, visit www.cbf.org/mdac

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